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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/629,458	07/31/2000	Phillip C. Keslin	1034.00	5371
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STERNE, KESSLER, GOLDSTEIN & FOX PLLC 1100 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			CUNNINGHAM, GREGORY F	
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DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/629,458	Applicant(s) KESLIN, PHILLIP C.	
	Examiner Gregory F. Cunningham	Art Unit 2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☒ Claim(s) 12, 14, 19 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communications of application received 1/24/2005.
2. The disposition of the claims is as follows: claims 1 - 21 are pending in the application. Claims 1, 6 and 15 are independent claims. Claims 6-21 were previously allowed.
3. When making claim amendments, the applicant is encouraged to consider the references in their entireties, including those portions that have not been cited by the examiner and their equivalents as they may most broadly and appropriately apply to any particular anticipated claim amendments.

Allowable Subject Matter

4. The indicated allowability of claims 6-21 is withdrawn in view of the newly discovered reference(s) to James E. Fowler in "Evaluation of SGI Vizserver". Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The term "after a user" in claim 10 is a relative term that implies, in part, a past tense and a reader expects this to be coupled either previously or as a follow-up with some action, status or condition via properly punctuated clauses. Therefore this claim is rendered indefinite. The term "after a user" condition is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Element (iii) appears to be a condition for at least element (ii) and perhaps element (i) also, however this is uncertain because of the wording and punctuation. Furthermore according to the wording and punctuation or lack thereof, elements (iv) – (ix) may be contingent upon element (iii). Appropriate correction is required.

7. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: element (d) "returning client window to graphics application" can be interpreted as either returning a window image, or returning a definition of the client window, a visual, or return control. Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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9. Claims 1, 6 and 15 are rejected under 35 U.S.C. 102(a) as being disclosed by James E. Fowler in "Evaluation of SGI Vizserver", hereinafter Fowler.

A. Claim 1, "A system for providing a client with access to remote graphics rendering resources at a server, the server comprising:

a graphics application, at the server, wherein said graphics application receives commands from the client; and a remote rendering control system, at the server, that receives graphics instructions from said graphics application, generates modified graphics instructions on the basis of said graphics instructions, and outputs said modified graphics instructions to the remote graphics rendering resources" is disclosed by Fowler on pages 3 and 4 at 2.1 Vizserver Architecture (see 2nd para. on p. 4 and Fig. 2 on p. 5). Wherein "server", "remote rendering control system", "OpenGL Commands", "graphics resources" and "client", respectively correspond to 'REMOTE MACHINE', 'Vizserver Server', 'modified graphics commands', 'Graphics Pipeline & Frame Buffer' and 'LOCAL MACHINE' of Fig. 2. In Fowler's Fig. 2, the transfer of information from 'Application' to 'Vizserver Server', although unlabeled, is sufficiently poised to correspond to "graphics instructions".

B. Per independent claims 6 and 15, these are directed to a method and computer program product, respectively, for the system of independent claim 1, and therefore are rejected to independent claim 1.

C. Claim 2, "The system of claim 1, wherein said remote rendering control system comprises a transparent interface to said graphics application, and wherein said transparent interface supports initialization of a graphics rendering session and accommodates client parameters during said graphics rendering session" is disclosed supra for claim 1 and

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furthermore on [p. 4, para. 2 at ‘SGI Vizserver provides an alternative to X-based remote visualization while retaining the advantage of transparency to the visualization application. A block diagram of the Vizserver system is shown in Figure 2. The application, completely unaware of the presence of Vizserver, runs on the remote machine as if the remote machine were local. That is, the OpenGL commands employed by the application are intercepted by the Vizserver server and directed to the remote-machine graphics pipeline] and [p. 10 at ‘**Transparent to application**—Vizserver can be deployed without any modification whatsoever to the visualization application; and furthermore on p. 7, at para. 2.3 Vizserver API].

D. Claim 3, “The system of claim 1, wherein image data is produced from said modified graphics instructions, and wherein said remote rendering control system comprises a data compression module that compresses said image data prior to sending said image data to the client” is disclosed supra for claim 2 and furthermore on [p. 3 at ‘The Vizserver system can optionally compress the images transmitted from the Vizserver server to the client to reduce the bandwidth required of the network. We overview the compression options provided by Vizserver next.]

E. Claim 4, “The system of claim 1, wherein said remote rendering control system receives image data generated by the remote graphics rendering resources on the basis of said modified graphics instructions, and sends said image data to the client” is disclosed supra for claim 2 and furthermore on [p. 4 and 5 – see Fig. 2, wherein ‘Rendered Image’, ‘Vizserver Server’, ‘Compressed Image’ and Vizserver Client’ respectively correspond to “image data”, “remote rendering control system”, compressed image data and “Client”; see p. 4, *2.2 Vizserver Compression*].

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F. Claim 5, "The system of claim 1, wherein said remote rendering control system receives graphics instructions from said graphics application in response to said commands from the client" is disclosed supra for claim 1.

G. Per dependent claims 7 and 16, these are directed to a method and computer program product, respectively, for the system of dependent claim 3, and therefore are rejected to dependent claim 3.

H. Claim 8, "The method of claim 7, wherein steps (F), (J), and (I) are performed in pipeline fashion" is disclosed supra for claim 7 and furthermore by Fowler, see Fig. 2 'Graphics Pipeline'.

J. Claim 9, "The method of claim 8, wherein steps (F), (J), and (I) are asynchronous" is disclosed supra for claim 8 and furthermore by [Fowler, on p. 4, 2nd para. at 'The Vizserver server then captures the pipeline output from the frame buffer and transmits the resulting sequence of images to the Vizserver client running on the local machine.] Wherein sequence corresponds to "asynchronous".

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 10, 13, 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fowler as applied to claims 6 and 15 above, further in view of Hamilton et al., (5,799,150),

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hereinafter Hamilton; further in view of Russ (US Patent 6,535,909 B1); further in view of Davis et al., (US Patent 5,583,922), hereinafter Davis; and further in view of Koga et al., (US Patent 5,819,077), hereinafter Koga; and further in view of Flurry, (US Patent 5,291,608).

A. Claim 10, "The method of claim 6, wherein step (A) comprises the steps of:

- (i) performing a client / server handshake;
- (ii) receiving a client visual from the client;
- (iii) after a user at the client opens a console window at the client and starts the graphics application, opening client and server displays;
- (iv) merging the client visual with a server visual to form a merged visual list;
- (v) associating the client display with the graphics application [p.4, 2nd para.];
- (vi) overlaying the server visual list with a transparent interface routine [p.4, 2nd para.];
- (vii) enabling the return of a client window to the graphics application [see Fig. 2, from frame buffer];
- (viii) enabling the return of an internal context to the graphics application; and
- (ix) binding a server context to a server window" is disclosed supra for claim 6 and [as detailed].

However Fowler does not appear to disclose "(i) performing a client / server handshake;

- (ii) receiving a client visual from the client;
- (iii) after a user at the client opens a console window at the client and starts the graphics application, opening client and server displays;
- (iv) merging the client visual with a server visual to form a merged visual list;
- (viii) enabling the return of an internal context to the graphics application; and
- (ix) binding a server context to a server window", however,

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Hamilton discloses “(i) performing a client / server handshake” in col. 4, lns. 56-60;
Russ discloses “(ii) receiving a client visual from the client” in col. 4, lns. 48-54;
Davis discloses “(iv) merging the client visual with a server visual to form a merged visual list” in col. 15, lns. 44-56;
Koga discloses “(viii) enabling the return of an internal context to the graphics application” in col. 8, lns. 5-17;
Flurry discloses “(ix) binding a server context to a server window” in col. 10, ln. 64 – col. 11, ln. 29.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Vizserver disclosed by Fowler in combination with client / server handshaking disclosed by Hamilton, receiving visual disclosed by Russ, merging visual to form a merged visual list disclosed by Davis, enabling internal context disclosed by Koga; and binding server context to server window disclosed by Flurry, and motivated to combine the teachings because all are related to the initialization of a graphics rendering session between a client and server as detailed in each of the given references.

(Examiner’s note “steps comprising” does not elicit any particular order of steps even though steps are labeled (i) through (ix), there is no stipulation mentioned of a required order.)

B. Claim 13, “The method of claim 10, wherein step (ix) comprises the steps of:

(h) extracting a server context from the internal context [Flurry in col. 4, lns. 52-60];

(i) requesting a window allocation from a session manager [Flurry in col. 3, ln. 56 – col. 4, ln. 21]; and

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(j) associating the server context with a server window [Flurry in col. 4, ln. 50 – col. 5, ln. 3]” is disclosed supra for claim 10 and furthermore [as detailed].

C. Per dependent claims 17 and 20, these are directed to a computer program product for the system of dependent claims 10 and 13, and therefore are rejected to dependent claims 10 and 13.

12. Claims 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fowler as applied to claims 6 and 15 above, further in view of Hamilton et al., (5,799,150), hereinafter Hamilton; further in view of Russ (US Patent 6,535,909 B1); further in view of Davis et al., (US Patent 5,583,922), hereinafter Davis; further in view of Koga et al., (US Patent 5,819,077), hereinafter Koga; further in view of Flurry, (US Patent 5,291,608), and further in view of Allard et al., (US Patent 6,018,619), hereinafter Allard.

A. Claim 11, “The method of claim 10, wherein step (vii) comprises the steps of :

(a) converting the merged visual list into a visual appropriate for the client [Davis in col. 15, lns. 51-56];

(b) defining the client window [furthermore in Davis in col. 5, lns. 17-31];

(c) creating an internal data structure for tracking the displayed location of the client window;

and (d) returning the client window to the graphics application [Fowler, see Fig. 2, from frame buffer]” is disclosed supra for claim 10 and [as detailed].

However Fowler, Hamilton, Russ, Davis, Koga, and Flurry do not appear to disclose “(c) creating an internal data structure for tracking the displayed location of the client window”, but Allard does in col. 5, lns. 44-55.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Vizserver disclosed by Fowler in combination with client / server

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handshaking disclosed by Hamilton, receiving visual disclosed by Russ, merging visual to form a merged visual list disclosed by Davis, enabling internal context disclosed by Koga; and binding server context to server window disclosed by Flurry, coupled with tracking disclosed by Allard and motivated to combine the teachings because 'an organization uses a network address translation box and has Internet access through means of a subscription service' as revealed by Allard in col. 4, Ins. 23-26.

B. Per dependent claim 18, this is directed to a computer program product for the system of dependent claim 11, and therefore is rejected to dependent claim 11.

Allowable Subject Matter

13. Claims 12, 14, 19 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Citation of Pertinent Prior Art

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

<u>U. S. Patent No.</u>	<u>Issued</u>	<u>Class</u>	<u>Applicant(s)</u>
6,850,967 B1	2/1/2005	709/205	Spencer et al.
6,249,294 B1	6/19/2001	345/504	Lefebvre et al.

Non-Patent Literature:

Remote Visualization, Andrew Usher, <URL: <http://www.damtp.cam.ac.uk/cosmos/Public/viz/>>.

A Framework for Interactive Hardware Accelerated Remote 3D-Visualization, Klaus Engel, Ove Sommer, and Thomas Ertl, <URL: <http://www2.ccc.uni-erlangen.de/projects/ChemVis/VisSym2000.pdf>>.

An Efficient System for Collaboration in Tele-Immersive Environments, Jensen, Olbrich, Pralle, and Raasch, <URL: <http://projekte.learninglab.uni-hannover.de/pub/bscw.cgi/d7573/An%20Efficient%20System%20for%20Collaboration%20in%20Tele-Immersive%20Environments>>.

Response to Arguments

15. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

Responses

16. Responses to this action should be mailed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231.

Inquiries

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory F. Cunningham whose telephone number is (571) 272-7784.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Gregory F. Cunningham
Examiner
Art Unit 2676

gfc

6/13/2005



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